



**DETERMINING THE AMOUNT OF MATERIAL
FINER THAN THE #200 (75 μ m) SIEVE IN AGGREGATE**

SCOPE

This test method outlines the procedure for determining the quantity of material finer than a #200 (75 μ m) sieve by washing and dry sieving.

PROCEDURE

A. Apparatus

1. A #200 (75 μ m) sieve (wash sieve)
2. A wash pan large enough to prevent loss of water and material
3. Oven or drying stove
4. Balance accurate to 0.1 percent of the sample mass (weight)
5. A set of 8-in. (203-mm) or 12-in. (305-mm) sieves for dry sieving

B. Test Sample

1. Select the test sample from the material to be tested by an appropriate method as outlined in Materials IM 336.
2. When determination of specification compliance is needed on each or any of the following sieves: #16 (1.18 mm), #30 (600 μ m), #50 (300 μ m), or #100 (150 μ m), subject the entire sample to this test procedure.
3. When determination of specification compliance is needed for only the amount of material finer than the #200 (75 μ m) sieve, reduce the remaining portion of the field sample from which the original test sample was selected, by the appropriate method as outlined in IM 336. A representative sample, sufficient to yield not less than the appropriate mass of dried material, as shown in the following table shall be selected:

| Sieve Analysis Sample Mass (Weight) kg (See Materials IM 301) | Appropriate Minimum Mass (Weight) kg of Sample |
|---|---|
| 5.0 kg | 2.5 kg |
| 3.5 kg | 2.5 kg |
| 2.0 kg | 1.0 kg |
| 1.5 kg | * |
| 1.0 kg | * |
| 0.5 kg | * |
| 0.2 kg | * |

*Use entire sample.

C. Test Procedure

1. Place the sample in the oven at 230°F (110°C) or on the stove and dry to a constant mass (weight). Care must be taken in drying the sample to avoid overheating causing the sample to “pop” or “sputter.”
2. Allow the sample to cool, weigh and record as the Original Dry Mass (Weight).
3. Place the sample in the wash pan and add a sufficient amount of water to cover it. A detergent, dispersing agent, or other wetting solution may be added to the water to ensure a thorough separation of fine material from the coarser particles.
4. Agitate the sample vigorously using a rotary motion of the pan for five to ten seconds.
5. Pour off the water through the #200 (75 µm) wash sieve. When washing samples with a high silt content, it may be necessary to vibrate or lightly tap the wash sieve in order to keep the mesh open so the water and the minus #200 (75 µm) sieve material may pass through freely. Repeat this operation until the wash water appears almost clear.



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6. Rinse the material retained on the #200 (75 μ m) sieve back into the sample and decant as much water as possible by carefully pouring the water through the #200 (75 μ m) sieve.
 7. Dry the washed sample, allow to cool, weigh and record as the Dry Mass (Weight) of the washed sample.
 8. When determining only the amount passing the #200 (75 μ m) sieve, screen the sample over the #8 (2.36 mm) sieve and discard the retained material. Place the portion of material passing the #8 (2.36 mm) sieve on a nest of sieves including the #50 (300 μ m), #100 (150 μ m), and #200 (75 μ m) sieves and the pan. The sieves larger than the #200 (75 μ m) sieve are included for protection of the #200 (75 μ m) sieve. Place the nest of sieves in the mechanical sieve shaker and sieve to completion (normally five minutes or less). Weigh and record only the material retained in the pan.
 9. When a complete sieve analysis is required, test the entire sample using the appropriate method as outlined in IM 302.

D. Calculations

$$\% \text{ Passing } 75 \mu\text{m (}\#200\text{) sieve} = \frac{\text{Washing Loss} + \text{Pan}}{\text{Original Dry Mass (Weight)}} \times 100$$